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THE GENESEE FARMER.

SATURDAY, FEBRUARY 9, 1839.

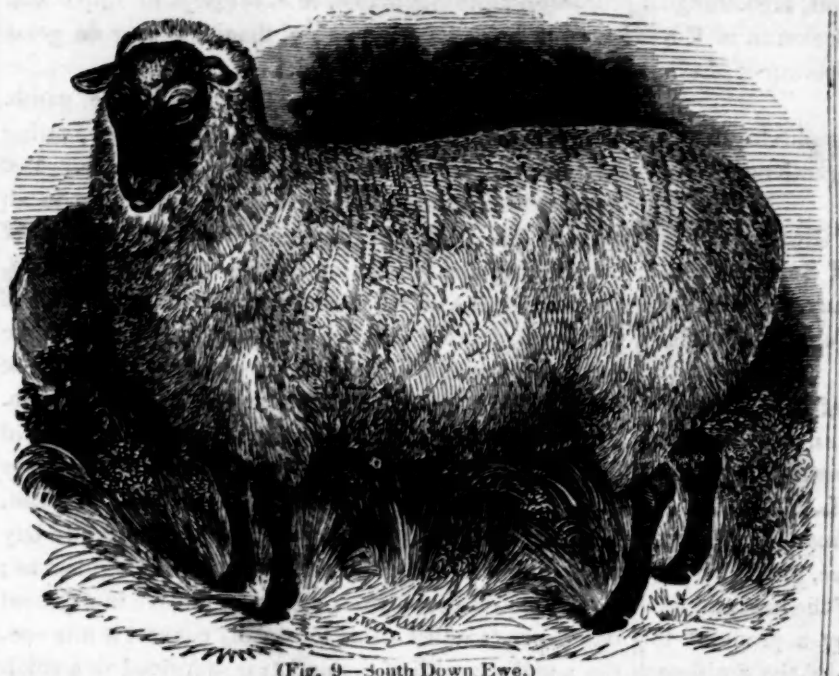
UNDER DRAINING.

One of the best signs of an improved agriculture, is the attention which is beginning to be paid to draining—and of all kinds, thorough under draining is the most to be preferred. Cases may indeed occur where surface draining should be chosen, and where large quantities of water are occasionally thrown upon lands, or are furnished by springs and streams, open drains are indispensable. There are very few farms, however, on which tracts of land cannot be found, owing perhaps to a compact substratum, or the breaking out of springs, too wet to be ploughed, or unfit for the production of any thing except the coarser kinds of grass. Such land is always soft and spongy; cattle turned upon it poach it up with their feet, and wagons cut the slightly adhering turf into strips when driven over it for hay. Now there are few instances in which the value of such lands may not be doubled in a single season, by a judicious expenditure of ten or fifteen dollars per acre in draining. When once the water is taken from such lands, the soil is usually very fertile, certainly so when they are surrounded by cultivated fields, as these low places are the receptacles of much of the rich mold and manure washed from other parts of the farm or farms. The process of under draining is generally so simple that it may be performed by any one; though where any doubt as to the proper levels, or the source of the water, exists, a previous examination by a person practically acquainted with the business of draining may be necessary, in order to prevent useless expenditures. During our excursions last season, we saw many fields, then heavily covered with corn or root crops, or from which fine harvests had been taken, that only the year before had been deemed almost worthless. The change had been effected by draining; the turf of coarse grasses had been turned over in the spring, and the grain sown or planted on the reclaimed soil. We were also pleased to see that the system of under draining was rapidly extending its benefits; and we hope the time is not distant when those obstructions to good farming, swamps, swales and bog holes, on cultivated lands, will cease to exist. Some of these places contain inexhaustible supplies of marl, which is invaluable as a calcareous manure; or immense quantities of vegetable mold, which will be used in barn yards as an absorbent of the richest but most volatile parts of animal manures, when the benefits of the practice shall be more fully developed and made known to our farmers.

The American Silk Society, recently organized at Baltimore, are about to issue the "*Journal of the American Silk Society, and Rural Economist,*" to be under the editorial superintendence of J. S. SKINNER, Esq. the original proprietor of the American Farmer, the first, if we remember rightly, Agricultural paper ever published in this country—to appear monthly, 32 pages, pamphlet form,—$2,00 a year. All orders to be addressed to G. B. SMITH, Esq., Baltimore.

The Boston Cultivator is the name of a weekly *folio*, just commenced by a company of gentleman—WM. BUCKMINSTER, Editor—$2,00 a year.

SHEEP---LEICESTER AND SOUTH DOWN.



(Fig. 9—South Down Ewe.)

[Continued from page 3.]

Next to the Leicester sheep the attention of sheep-growers in this country has been directed to the South Down, a variety highly improved by Mr. Ellman, who has done for them what Mr. Bakewell did for the Leicesters—brought them to a high standard of perfection. As a hill sheep, one that can endure occasional 'short keeping, and hard stocking,' that early arrives at maturity, produces flesh of fine quality, and yields a heavy fleece of good wool, the South Down promises much for our farmers. Which of the crosses will eventually be preferable, the Leicester or the South Down, can only be determined by actual experiment.

Mr. Youatt, in the work before alluded to, gives in substance the following characteristics of the South Down.

The head small and hornless; the face speckled or grey; the lips thin, and the space between the eyes and nose narrow. The ears well covered with wool and the forehead also, and the space between the ears well protected by it, as a defence against the fly. The eye full and bright but not prominent. The neck of a medium length; the breast wide, deep, and projecting forward between the forelegs, indicating a good constitution, and disposition to thrive. The shoulders on a level with the back, but not too wide above. The ribs coming out horizontally from the spine, and extending far backward; the hips wide; the space between them and the last rib as narrow as possible, and the ribs generally presenting a circular form like a barrel. The back and belly straight. The legs neither too long nor too short; the bones fine, yet giving no appearance of weakness, and the legs having a speckled grey or dark color. The belly well covered with wool, and the wool coming down before and behind the knee, and to the neck; the wool fine, short, close, and curled, and free from spiry projecting fibres, or coarser hairs. The engraving is that of a premium ewe from the flock of Mr. Ellman.

In reply to a number of queries, on the qualities of the several varieties of sheep, made to Mr. ROTCH of Otsego, one of the best breeders and skilful judges in this country, was the following:—"What breed is most hardy and best adapted to our climate?" To this query that gentleman replied, "South Down *certainly.*" Mr. R. says 'they are, a medium size, fine in the fleece, which averages 4 lbs. in the ewes; the bucks reach to 7 lbs. In quality the wool is equal to half blood merino. They are excellent nurses and quick feeders.' Owing to some cause the South Down have not as yet become so well known in this country as the Leicester, though it would seem highly deserving of notice from the hardy nature of its constitution and the quality of its wool. This cause may be found in the fact, that the half blood merino is already found on the farms of most small farmers; and where wool of a superior quality is desired, as is usually the case where wool is the object of the grower, the pure Merino or Saxon will be preferred to the South Down or any other kind. In England it has been found impossible to introduce the Saxon or even the common Merino with success, and hence the attention of her agriculturists has been directed to the improvement of their best wooled native breeds, among which the South Down stand pre-eminent. Admitting, of which we think there can be no reasonable doubt, that the South Down is a sheep of more hardy constitution, is a better nurse, yields as much wool, and that of as good quality as the half blood merino, it is clear an advantage would be derived by substituting the first for the last on our farms. The weight of the South Down and the half bloods would probably not vary very essentially, but the mutton of the former is said to be of a quality far superior to the latter; and as the use of mutton is yearly becoming more common, among all classes in this country, it of itself furnishes a sufficient reason why more attention should be paid to the subject. Mr. Parsons of Riga has a fine flock of South Downs.

The introduction of improved animals from abroad, or their improvement here by crosses or otherwise, cannot be too highly commended. The result cannot be otherwise than beneficial to the country; as by it the kinds best suited to the climate, and the wants of the inhabitants will most speedily be obtained. All experience shows, that there are so many circumstances of soil, pasture, climate, and attention to breeding, to be taken into consideration in estimating the value of any particular breed of animals, when that breed is to be transplanted to another region, that success must of necessity be uncertain; and the adaptation of the animal to its new abode can only be decided by actual experiments, fairly conducted, and continued for some time. In estimating the value of imported animals when compared with the common breeds of the country, it should not be forgotten that they are usually, and always ought to be, picked and choice ones; that they are in the hands of men who are able to give them good keeping and of the kind best suited to their wants; and in the hands of ordinary farmers they would not reach the standard of excellence they now do. If these things are overlooked, an exaggerated estimate of their value is apt to be entertained, and disappointment will be the lot of the purchaser.

ANNUAL MEETING
OF THE
New-York State Agricultural Society.

[*From our Correspondent.*]

ALBANY, Feb. 7, 1839.

The New York State Agricultural Society met pursuant to adjournment at the City Hall on Tuesday, Feb. 5, Dr. Beekman, the President, being absent, Mr. ALEX. WALSH was called to the chair, and Mr. JAMES L'AMOREAUX appointed Secretary. The minutes of the last meeting were read and some business matters transacted.

On motion of Mr. Jesse Buel, a communication was read from Dr. Beck, one of the State Geologists, requesting the aid and co-operation of the society in their examination through the state as far as the same may have reference to agricultural interests. It was then resolved that a committee be appointed to visit the Geo.

logical corps of this state, for the purpose of conferring with them on the preceding communication made to the society through Dr. Beck, also giving them power to enlarge their number as might seem to them best. The committee appointed consisted of Mr. Mott, Hon. Judge Buel, and Mr. Cooper of Albany, Dr. Beekman of Columbia, Mr. Botch of Otsego, and Mr. Spencer of Madison.

A committee was then appointed to nominate officers for the ensuing year, and the following gentlemen were unanimously elected:

President—ANTHONY VAN BERGEN, of Greene county.

Vice Presidents—W. A. NORTH of Schenectada, ICHABOD S. SPENCER of Madison, ALEX. WALSH of Rensselaer, IRA SMITH of Washington, JOEL B. MOTT of Albany.

Recording Secretary—WM. COOPER of Albany.

Corresponding Secretary—JESSE BUEL of Albany.

Examining Committee—JOHN TOWNSEND, JESSE BUEL, JAMES L'AMOREAUX, H. D. GROVE, L. F. ALLEN.

A communication was then read from Mr. Fleishmenn on the culture of the mulberry tree, and the manufacture of silk; also on the culture of the beet and the manufacture of sugar, accompanied by a proposal to petition congress for an appropriation of the Smithsonian Legacy to agricultural education. The proposal meeting concurrence, Messrs. Mott, Buel and Potter, were appointed to prepare a memorial to be presented to Congress on the subject.

SECOND DAY.

Feb. 6. The Society met at the usual time. The Treasurer made his annual report and showed a surplus of $104. A committee was then organized and the following subjects chosen, on which reports were to be made at the next annual meeting of the Society.

1st. On the most approved method of stall feeding oxen and other neat cattle. Committee: Wm. H. Strong and S. Clark.

2d. On converting vegetable matter into manure. Com.—Messrs. Bell and Walsh.

3d. On tillage proper for different kinds of soil, clay, sand and gravel. Com.—Messrs. Van Bergen, Buel and Beekman.

4th. On the proper time to cut timothy and clover and the best method of curing the same. Com.—Messrs. Salisbury and Van Bergen.

5th. On the effects of lime and its application to different soils. Com.—Messrs. Viele and Buel.

6th. On the best means of eradicating the Canada thistle. Com.—Messrs. Duane and North.

7th. On the manufacture of sugar beet. Com.—Messrs. Duane and North.

8th. On the comparative economy of employing horses or oxen, in the labors of the farm. Com.—Messrs. S. & R. S. Allen, Erie county.

9th. On the best method of cultivating the potatoe. Com.—Messrs. Buel and Whiteside.

10th. On the comparative value of potatoes, carrots, ruta baga and mangel wurtzel, as food for cattle and sheep. Com.—Messrs. Grove and Rotch.

11th. On the question of fattening spring pigs. Com.—Messrs. Benedict and Frey.

12th. On the value of apples as food for cattle, sheep and hogs. Com.—Mr. Grove.

On motion of Mr. Allen, a committee was then appointed to examine such agricultural implements as might come under their observation, and give their views to the society at their next annual meeting.—Messrs. Nott, Bement and Bullock, were appointed.

The society then adjourned to meet at the Capitol at 4 o'clock, where an address was delivered by Mr. VIELE of Washington county. It was an elegant and beautiful discourse, fraught with sound sense and enlightened views of the true policy of our government in fostering agricultural art, and it was listened to with deep attention. He enlarged on the importanee of the ends for which the society was organized, and the nobleness of agricultural pursuits. He depicted in strong terms the false estimate at which even at this day the labor of the husbandman is held, and dwelt on the baneful effects of this depreciation, on our youth by deterring them from entering the ranks of a profession alike honorable, intellectual and important. I cannot refrain from quoting, though I may do great injustice to his graphic sketch:

"Mercantile business is overdone, and a set of gambling speculators are foisted on the community, eating their substance and impoverishing the country. Monopolies and priviledged orders are springing up in all parts of the land, leeching upon the hard earnings of the laboring and producing classes. Instead of producing a surplus of the necessaries for the great mart of the world, thereby making our country the lap of the golden treasures of the earth, we produce a surplus of paper money, create a multiplicity of priviledged consumers, whereby labor is heavily taxed. The prices of our commodities become enormously and distressingly high, and our country is the great market of the world. Instead of being exporters, we are importers; we buy more than we sell; the balance of trade is against us; foreign nations supply our demands, receive in payment our paper (another name for credit) convert it into specie, and the wealth of the nation is sacrificed to a suicidal policy."

Of the justice of Mr. Viele's remarks, one glance at society will convince every reflecting mind. His suggestions, as to the just balance which should ever be preserved between the paper currency and circulating medium, and the real wealth and business of the community, were worthy the attention of legislators. He placed in its true light the impoverished state of our agriculture, by calling to mind that, though possessing a salubrious climate, and a soil scarcely equalled in fertility, we have for years been dependent on foreign nations for the necessaries of life. Wheat, rye, barley, oats, butter, cheese, potatoes, hay, &c., have all been imported. We seem to have remained comparatively poor with the means of wealth within our very reach, and the truths which Mr. V. so forcible presented to his hearers, seemed so important and striking, that it is wonderful they have not been subjects of legislative attention long ago. In the single article of silk the importations during the last *seven years*, have been 14 *millions annually*, and this, while, as the talented speaker observed, the less fertile parts of our great territory, could in no way be better appropriated than in the culture of the mulberry tree. Again he spoke of the sugar beet, from which sugar could be manufactured at an expense far less than we now supply ourselves. Under the continental system of Buonaparte sugar was manufactured in France to the amount of *one hundred millions* of pounds annually. Other articles of present importation were also dwelt upon, in which the limits of this notice prevent our following him, and it was shown that *twenty millions* might be saved annually to our land.

"Ignorance (said he) may reject them as innovations unworthy a passing notice, and incredulity smile at these fond anticipations, but he who will investigate the subject must inevitably arrive at the same conclusions." "The wisdom of making appropriations from the public treasury to improve our agriculture has generally been conceded and acted on in matters of minor importance, but little as yet has been done on points of greater moment."

He traced one of the causes of this in the facility with which our yeomanry lend themselves to be the willing tools of intriguing demagogues, instead of guarding with jealous care their own interests as a body; interests of such vast and vital importance to the state.

I regret that it is not in my power to give you copious extracts from this interesting address. It received its highest compliment in the deep and earnest attention of a crowded audience, and the generally expressed wish that Mr. Viele would be induced to give it publication. The facts and opinions he has expressed should be imprinted on the minds of every "son of the soil," till he feels the importance of an occupation which is the basis of all others. The necessity of *educating* our children expressly with a view to render them fitted for such situations, and the consequent necessity of having schools or colleges endowed for this purpose, was a theme most ably and eloquently painted. I can give you but a faint and garbled outline of Mr. V.'s address, which, as I said before, it is to hoped will appear in print.

The State Agricutural Convention

Met at the Assembly Chamber on Tuesday Feb. 5, in the afternoon, and the following officers were chosen:

DERICK SIBLEY of Monroe, President.

JOHN CRARY of Washington,
CORNELIUS BERGEN of Kings,
J. L. VOORHEES of Onondaga,
N. CLARK of Washington,
} V. Presidents.

WM. A. BIRD of Erie,
R. KEESE of Essex,
Z. BARTON STOUT of Ontario,
} Secretaries.

Mr. L. F. Allen offered a resolution in favor of a memorial to be presented to the legislature, requiring assessors throughout the state to ascertain the annual quantity of agricultural products and domestic manufactures. After some amendments the resolution was passed.

Mr. Buel then reported in favor of the culture of silk, by making it the object of Legislative bounty for a limited number of years.

Also in favor of the cultivation of the sugar beet, by making it an object of Legislative bounty.

Also in favor of having a brief treatise on the culture of the mulberry tree prepared, and circulated in our common schools.

Also a similar treatise on the sugar beet, and method of extracting sugar.

The debates on these resolutions were extremely interesting to all lovers of natural science, and I regret that it is not in my power to furnish extracts.

Mr. L. F. Allen, in his resolution offered on the subject of an assessment of all productive property, stated some very interesting facts. Massachusetts, previous to the construction of the great Boston Rail road, which terminates at Stockbridge, was under no necessity of using any foreign capital. When it became necessary to negociate a trans-atlantic loan, they were desirous of ascertaining the exact intrinsic wealth which they could offer as security. An assessment was accordingly made and it was found to amount to 89 millions—more than the cotton interest of all the south. Mr. Rothschild had announced that he would never loan money to people that were obliged to import their bread stuffs, but on this document being presented, he acknowledged Massachudetts a safe debtor. A similar assessment in our state would be desirable in more than one point of view. It would enable us to ascertain exactly our wealth compared with the other states, and doubtless the example would be followed, and we should have an aggregate of our national wealth.

The importance of a regular attendance of the members of this society at its annual meetings, is of vast importance. The agricultural interests of our state it is hoped will receive such aid from our Legislature as its members have resolved to solicit. We have institutions for the education of physicians, of lawyers, of divines; the farmer must also be educated, and the nation will receive back its money ten-fold, in the annual increase of the products of its soil, that most substantial national wealth.

The Hon. ISAAC HILL, the present *Governor* of New Hampshire, has commenced the publication of an Agricultural paper at Concord, entitled *The Farmer's Monthly Visitor*—16 pages quarto, about the size of this paper—price 75 cents a year. It is a valuable sheet, worth twice the money, and will, no doubt, receive a wide circulation.

ANIMAL NUTRITION.

Until within a very few years, little attention seems to have been paid to the subject of animal nutrition; the quantity or kind of food most suitable for this purpose was mostly overlooked, and if life was supported, no questions were asked as to the why and the wherefore. So long as the population of the old world remained few in number compared with the acres from which subsistence was to be drawn, there was indeed little use in inquiries of the kind; then, as now in the United States, or this continent generally, a supply of food of some kind was usually certain. Now and then, years of famine in particular sections might occur;—for in those times, when the means of intercourse were so limited, the inhabitants of one country might be starving, while those at a distance of a few hundred miles were rioting in abundance;—but they were soon forgotten in the succeeding plenty, and led to no valuable investigations as to the nature of food or nutrition. The population fared more nearly alike in former times than at present, so far as food was concerned; it was bulky and hearty, and if it produced disease, it was of a different kind from that which now assails the modern omniverous eater and drinker, and in all cases was decidedly the same. In these days the differences in mankind made by rank or wealth, are scarcely more deeply marked than those observable between the diseases of the rich and the poor; a difference in the main to be attributed to the nature of their diet, and its effects on the animal system.

Among the inquiries into the effect of different kinds of food or animal nutrition, Dr. Stark, of Vienna, appears to have taken the lead; indeed he seems to have fallen a martyr to his zeal in the cause of science, perishing, as he undoubtedly did, from the results of his long continued experiments on *himself*. By confining himself to food of a particular kind for a considerable space of time, he was able to ascertain its actual effect on the organs of digestion, and its value as a source of nourishment. Bread, meat and milk, each in its turn, for a considerable period was his sole nutriment; and the result showed that these things, certainly among the most nutritive of substances, could not maintain the vigor of the body, or even life itself, for but a limited time. In this respect man differs from the majority of animals; his organization is such as to admit and even require a variety of food, while many animals are by a law of their natures confined to a particular kind of food, as flesh or vegetables.

The French physiologists, Magendie and his coadjutors, followed up the experiments of Stark, not on themselves, but on animals, and found they could not long survive on food, however nutritious in itself, unless they receive a large portion of that on which they naturally subsist. Thus a dog fed on white sugar and water alone, soon became emaciated, lost its appetite and sight, and perished. Few substances can be more nutritive than sugar, but it lacked the power of properly distending the stomach, and exciting its digestive energies. Dogs fed on pure wheat bread and water lived but little longer; and rabbits which eat a variety of vegetables, such as clover, cabbage, barley, corn and carrots, were unable to live for any time confined to one of these. It was found that animals, when much emaciated and reduced by one kind of food, were not often restored by another, though they frequently partook of it with greediness—the tone of the stomach could not be regained.

To facilitate proper digestion of food by the animal or man, it is necessary that with the nutritive part, substances more bulky, or containing little nutritive power, should at the same time be taken as food. An experiment has been made in England on the feeding of horses, which demonstrates this fact most conclusively. Some cavalry horses were selected, and while one part of them received sugar and water alone, the other part had a few pounds of cut straw added to their portion of sugar and drink. Those which received the sugar alone fell away rapidly, while those fed with the sugar and straw throve as perceptibly; and a repetition of the experiment on another set of animals, showed the same result. In man the rich and high seasoned food, the fine flour and the fat meat, are to the stomach what pure wheat or sugar would be to the stomach of the horse. There is much nutriment, but little that can facilitate digestion. A man swallows nourishment enough for half a dozen, but instead of its producing a good effect, his stomach becomes disordered, its functions debilitated, and in the midst of plenty he becomes dyspeptic, and incapable of enjoying any thing. The man who lives on common food, sound and sufficiently nutritious, is rarely troubled with the evils that press so heavily on him who, regardless of the law of nature, takes more nutriment and less substance than is consistent with a healthy tone of the digestive powers.

Perhaps the best estimate of the time required for the digestion of the various substances used as food by man, and their general effect on the animal organization, is given in the book of Dr. Beaumont, from experiments made on the living subject, and under circumstances more favorable to correctness than are known to have ever before existed. We give below a table of the results obtained by him, not as a mere matter of curiosity, but as furnishing information of the most valuable kind in connection with animal nutrition. The first column indicates the substance taken into the stomach; the last the time required for its digestion.

	hour.	min.		hours.	min.
Boiled rice,	1		Mutton, fresh,	3	15
Sago, tapioca, barley and boiled milk,	2	15	Veal,	4	
Tripe and pigs' feet,	1		Wheat bread, fresh baked,	3	30
Fowls, beef's liver,	2	30	Corn bread,	3	15
Hard Eggs,	3	30	Sponge cake,	2	30
Soft do.	3		Succatash,	3	45
Custard,	2	45	Apple dumpling,	3	
Trout, boiled or fried,	1	30	Apples sour and mellow,	2	
Other fresh fish,	3		Do. sweet and mellow,	1	30
Beef rare, roasted,	3		Parsneps boiled,	2	30
Dry roasted,	3	30	Potatoes do.	3	30
Salt beef with mustard,	2	30	Do. roasted,	2	30
Pickled pork	4	30	Raw cabbage,	2	30
Raw pork,	3		Raw with vinegar,	2	
			Cabbage boiled,	4	30

Dr. Beaumont found that the envelope of the seeds in the apple and the skins of potatoes were scarcely acted upon by the gastric juice, and consequently indigestible. As a whole it would seem that animal aliments are digested easier than vegetable ones; but his experiments show conclusively, that whatever the kind of food, the ultimate principle of nutrition, or the chyle, is the same in all cases.

Digestion is much facilitated by the particles of food being made fine when taken into the stomach, and the quantity of nutritive matter furnished is greater. Individuals therefore in whom the digestive powers are weakened, find a benefit in thoroughly masticating or chewing their food. This principle is of great importance in the feeding or fattening of animals, and shows the necessity of grinding or cooking the materials given them, if we are anxious they should derive the full benefit of the nutritive matter contained.

The experiments of Dr. Beaumont further proved, that when food of great nutritive powers was taken into the stomach in large quantities, the functions of that organ were evidently clogged, and that usually, in eating, a larger quantity of nutritive matter was received than was beneficial. A certain quantity of solid food, or food of a bulky nature, he found to be essential to digestion with ease, and a proper separation of the nutritive principle. This agrees with the fact, that horses or cattle require cut straw or hay mixed with their grain, both to ensure mastication, and furnish the necessary bulk of solid matter in the stomach. It is a common saying with farmers, that an ox when feeding on meal must be furnished with a lock of hay to make him a cud. They require more than this, and the reason, from what has been said above, is perfectly obvious.

NEW USE OF INDIA RUBBER.

It is well known that warts or excrescences appear on animals, that are obstinate in their adhesion, and difficult to remove or cure. Where they have become projecting, it has been customary to tie around them a silken thread or horse-hair, which by producing strangulation, or preventing circulation of the blood, causes them to drop off. The difficulty in this case arises from the necessity of frequently renewing the thread to continue a proper pressure, which when the wart becomes tender is irritating to the animal. As a substitute for the thread or horse-hair in producing the stricture, we have seen India rubber used, drawn into a fine thread, and after being wound once or twice around the wart, firmly tied. The elastic nature of the material causes a continued pressure on the neck of the wart, and it soon dies and drops off. A few months since we treated a wart, which a year or two since made its appearance on the under side of the eye of a valuable horse, and which by irritation from the harness and friction from other causes, had become a large tumor three-fourths of an inch in diameter, in this way. The excrescence was removed in forty-eight hours; it healed immediately, and a slight scar is all that remains to show its former presence. The thread of rubber should be drawn fine, or its contraction may be too sudden and powerful.

ELECTRO-MAGNETIC POWER.

In a late number of the Gen. Farmer an inquiry was made as to the state of Davenport's electro-magnetic machines, and the probability of their affording a power capable of working threshing machines of the kind noticed by the inquirer, as well as affording power for other purposes. To this inquiry we can only say, that nothing more is known of the state of Mr. Davenport's machines, than that he has for some months been at work upon one which it is hoped will justify the anticipations he and his friends appear to entertain of it as a moving power. At the same time it may be remarked, that the experiments of others, if not of Mr. D., would seem to lead to the supposition, that the increase of power is not in proportion to the increase of size in the machines; and Dr. Page of Washington, who has tried various combinations of this power, and carefully watched the results, is of the opinion that it cannot be made applicable for purposes requiring great power, or such as now require steam, or at least that a single machine cannot be made to exert such a power. Dr. Page's conclusion may be correct, so far as regards the working of a single machine; but we think he has himself furnished evidence, that any required degree of power may be obtained by a combination of small machines. In Silliman's Journal for January, 1839, is a paper on this subject by Dr. Page, in the course of which there is a drawing and description of a machine made by Mr. Davis, of Boston, of which Dr. Page says—"As a proof that electro-magnetism is susceptible of useful application where only a small power is wanted, a small engine was made by Mr. Davis in the month of July last, by the aid of which an individual gains fifteen dollars per day, by the simple operation of drilling the steel plates for gas burners. I think this may be considered the first instance in which the mechanical application of electro-magnetism has been turned to profitable account." It appears perfectly evident to us, that a combination of the power of several such machines, like that of several boilers on a single steam engine, may be made to exert almost any power wanted; whether the expense would be justified in the result, can only be determined when the nature and efficiency of this new agent is better understood. As it is, we must for a time be content with the old fashioned agents, horse, water or steam power, and patiently wait for other developments and improvements.

LIGHTING LAMPS OR CANDLES.

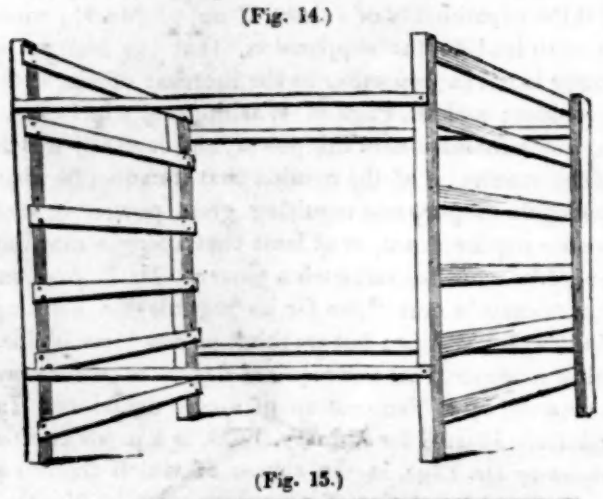
The reader who does not wish to expend his breath needlessly in puffing at a coal, or suffocate himself with the fumes of a genuine lucifer, will find the difficulties of lighting lamps or candles removed in a great measure by keeping a supply of papers folded for this purpose. These touched to the flame of a fire or hot coals will blaze readily, and the lamp or candle can be lighted at once. Old papers, cut into slips and folded, answer every desirable purpose; but if taste is to be consulted, papers of several colors may be used, and when placed in a proper glass need not offend the eye, even in the parlor.

COMMUNICATIONS.

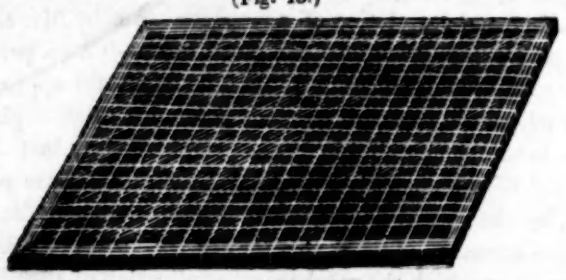
Apparatus for Feeding Silk Worms.

As many of our citizens are about to engage in the silk culture, with the hopes of making it a profitable business, (as doubtless it will be, if carried on judiciously,) and preparations are making by some to feed worms on an extensive scale the ensuing season, and as the profit will be increased by the economizing of time and labor, and adopting the best modes and apparatus for feeding worms, we suggest the following plan, which to us appears to combine convenience with great saving of time and labor. It consists of a frame, as represented in the plate, 4 feet long, 2½ feet wide, 7 feet high, formed of four upright posts with cross pieces at the sides, at the top and bottom, and cleats across the ends on which rest the shelves and hurdles. The shelves and hurdles are drawn out like drawers. The hurdles on which the worms are fed, consisting of net work of twine, are 1½ inches above the shelves, which are made of thin lath stuff with cross strips nailed to them underneath, to make them substantial and keep them from warping. The object of these thin sliding shelves is to catch the offal of the worms and prevent its falling on the hurdles below. The lower hurdles would not of course need it, and we do not know that it would be absolutely necessary for the others, but think it would be desirable. On this frame there is room for six hurdles. The following plate needs no particular explanation. Fig. 14 represents the frame with the cleats, on which the shelves and hurdles rest. Fig. 15, the hurdles.

(Fig. 14.)



(Fig. 15.)



When the worms are to be changed to clear away their litter, an empty hurdle supplied with fresh leaves is set over them, on little pins an inch and a half above them. The worms crawl up through the meshes into the upper hurdle. The lower one is then drawn out, emptied of its litter, and the upper one let down from the pins to supply its place. The shelf also is drawn out, cleansed and raplaced. With a few supernumerary hurdles to commence with, two persons may go through a large cocoonery in a few hours and do the work which would require 100 persons (say Messrs. Cheney) to perform in the same time, after the old method, where the worms are fed on shelves. It will thus be perceived there is a great saving of labor and consequently of *expense*, in this method. These frames and hurdles may cost something more it is true, than simple board shelves; but the saving of labor and the benefit to the worms will more than balance the extra expense in their construction. They may, however, be made very cheap and yet substantial. The posts may be made of sawed stuff, 2 inches square; the side cross pieces at the top and bottom, strips 2 inches wide and an inch thick, let into the posts their thickness, and nailed. The end cross pieces 3 or 4 inches wide, half an inch thick, either let into the posts or simply nailed on, and the little cleats nailed on these with shingle nails. The hurdles may be formed of strips of inch board, 1½ inches wide, dovetailed or nailed at the corners. They should be as light as is compatible with strength. The net work is formed of cotton or other twine, which may be put on in the following manner: Along on the outer edge of the sides and ends at about a quarter of an inch in, make a narrow groove, an eighth of an inch deep or a little more; then mark off divisions on the top of the sides and ends, the width you wish to make the meshes of the net work (which Messrs. Cheney say should be an inch in diameter; but for the worms in their early stage, half or five-eighths of an inch we should recommend,) then with a saw cut down in these divisions, to the groove. Through these, pass the twine across the frame, in the manner of cording a bedstead, and the work is done. The object of the narrow groove, is to prevent the twine from slipping off, and also by its being sunk in on the outer edge, to prevent its being worn by handling and sliding the hurdles in the frame.

These frames possess the following advantages: 1st. They are portable, and may be introduced into any spare room of the house, and may be stowed away when done with, and the room occupied for other purposes. 2nd. No part of the frame touching the room but the feet, the black ants, which are very troublesome sometimes and destructive to the worms, may easily be debarred access, simply by winding a string around the bottom of the posts, dipped in a solution of corrosive sublimate or a strong solution of camphor, which is very offensive to this insect. They may be arranged with the greatest economy of room, in double rows with alleys of four feet between them, being such a width that access need be had to the hurdles only on one side to tend the worms. As each hurdle will accommodate 800 worms, and each frame 5,000, a room 20 by 22 feet, will accommodate 80,000 worms. The best plan of an apparatus for the worms to wind their cocoons on, which we have seen described, is that of Mr. Hervey Hammond, which is as follows: "Have strips sawed several feet long—say 16 feet long, 1¼ inches thick and 3 inches wide; make frames corresponding with the size of the feeding trays—say 2½ feet wide, 4 ft. long; the sides or long pieces should have pins of three-fourths or seven-eighths of an inch in thickness and 3 or 4 inches long put in upright, and the distance between the pins equal to the thickness of the pins; cut strips of paper equal in breadth to the length of the pins; paste the ends together until a suitable length—say 4 or 5 yards, fasten an end to one of the end pins, wrap back and forth across the frame around the pins until you get from one end to the other; the vacancies between the papers will be equal to the thickness of the pins, in which places the worms wind their cocoons; when the worms are about to commence winding their cocoons, set this frame over them and let the paper come within about 1½ inches of the worms; there should also be sheets of paper laid over the frames to keep out the light and make the place more secret; after taking out, the paper may be preserved for the following season."

This frame, placed over the hurdles on the little pins projecting from the posts, will allow of supplying the worms with leaves by drawing out the hurdles from under it, till the last are ready to wind. W. W. B.

MANAGEMENT OF SHEEP—No. 1.

Mr. Tucker—I propose to furnish your readers with a few chapters on Sheep Husbandry. I shall endeavor to accomplish the matter frankly, to the best of my feeble ability, and without flourish. Notwithstanding the obligations I am under to you for your kindness in publishing my sentiments in a series of essays on the subject of protection of sheep, &c., in the last volume of the Farmer, yet I shall offer no apology for again intruding myself. The subject is an important one, and if in my progress I should repeat briefly some of the important facts which my own experience has furnished me in support of the benefits to be derived from protection of sheep, I hope none will find fault;—my motive will be found in a desire to promote the interest of my fellow farmers, and humanity towards that most interesting and necessary domestic animal, sheep. Repetition in toto, however, of all I have said in favor of protection, would indeed harm none; especially those who still neglect it. You very well know that important truths need to be often enforced. The fall of a solitary drop of water upon the rock makes no impression; but thousands of repetitions will; and so it would seem necessary in regard to the above subject. Nothing short of repetition upon repetition will cause farmers to turn from the beaten tracks of their grandfathers—remove inveterate prejudices, and produce conviction that their interest will be promoted by it. What an argument in favor of protection is the storm, which is now, (28th Jan.) and has been raging for the last two days! What conviction it would strike in every farmer could they see the contrast in the condition of flocks which are exposed entirely without shelter, and my own, at this very time. A roaring storm like this is worth more than all the arguments that ever was penned.

When I went to my four flocks of lambs this morning for foddering, what a pleasure it afforded me to see the little fellows bound out of their warm quarters with the life and elasticity of deer! some frisking like so many romping girls and boys when let out of school; every one erect—backs as straight as a candle, and not, as Ben Rogers says, "drawn in, and kinked up like a Frenchman's bow knot." If I received no other remuneration for the expense of protecting all my sheep than the pleasure it affords of thinking upon their comfortable situation, at such a time as this, it would be ample.

But as I design this as a sort of introductory essay, permit me to ramble a little.

Pray, why is it that your numerous correspondents contribute so seldom, and so little on the important subject of sheep husbandry? We have hundreds of articles informing us of the best modes of cultivating every crop, from wheat down to white beans; of the treatment of horses, cattle and hogs; the best and cheapest modes of fattening; the diseases peculiar to each, and the various recipes for restoring health; every information, in short, necessary to promote the welfare of the animal, and conduce to the greatest profit of the farmer. Last year I lost two sheep of a disease entirely unknown to me, and I believe not to be found in the catalogue peculiar to sheep. At one time, I purposed to draft a description of it, and forward it to you, with the query to your readers—what is the name, and what the antidote. But on reflection, such is the general indifference towards the interesting animal, I was convinced it would be useless; that it was more than probable my queries would be past by like the idle wind. But peradventure it had been a cow, afflicted with a disease which would have caused her to carry her tail horizontally, and scued round so as to form something like an angle with her body, my word for it, an hundred pens would have been ready to tell me of the inducing cause of the disease, and the appropriate remedy. Witness the turn out when hoof-ail was raging. Now, sir, I objected not to all that. On the contrary, although I never had any of my cattle attacked with that disease, yet I eagerly read each and every article which appeared on the subject; but the effort was "confusion worse confounded;" such were the conflicting opinions relative to its origin, and the various remedies proposed. But, in passing, although ergot is apparently the cause, yet I am not entirely satisfied that it is; enough so, however, to deter me from feeding hay to my cattle to which the poison is attached.

Do your correspondents, as well as the great mass of farmers suppose that the art of sheep husbandry has attained perfection in this country? that enough is known already in reference to management, in every particular, with a view to the greatest profit? If so, never was there greater blindness and error. So far from this being the fact, I beg leave to say, from my limited knowledge and observation, it is yet in its infancy. The time is coming, however, in my humble opinion, when

we of the north will be able to grow wool as well as any part of the world, and furnish it at as low a rate; when as a source of profit and revenue, it will be second only to wheat. But that day will be distant unless farmers awaken to the subject; not until sheep husbandry is far better understood than it now is.

Let us look into the magnitude which wool growing has already attained in this great country of ours;—brought into being, as it were, and fostered by the effects of the great American system—protection to our manufacturers when in their infant stages; but now grown into full man, and needing no legislative props; based upon the rock of nature, energetic enterprise, and setting foreign competition at defiance.

From a work on the subject of "Wool Growing and Manufacturing," compiled by C. Benton & S. T. Barry, and published something more than a year since, we are enabled to know the number of sheep in fourteen of the states, and are distributed as follows:

Maine,	622,619	New York,	4,299,879
New Hampshire	465,179	Pennsylvania,	1,714,640
Vermont,	1,009,011	Delaware,	150,000
Massachusetts,	373,322	Maryland,	275,000
Rhode Island,	81,612	Virginia,	1,000,000
Connecticut,	255,169	Ohio,	1,711,200
New Jersey,	250,000	Kentucky,	600,000
Making a total of			12,897,638

It is estimated that the average yield of wool per head is 3½ pounds—although I think it too high—which would make an aggregate product of nearly forty-two millions of pounds. The average price paid for wool from 1827 to 1836 inclusive, was 50 cents; this probably is correct, as one of the compilers of the above work was a purchaser of the article. It is fair to presume that the number of sheep in this state is now about 4,500,000, which at 3½ lbs. per head, would make 15,750,000 lbs.; and as the average worth per pound is, or will be by the next clip, 50 cents, the worth of the whole is seven millions eight hundred and seventy-five thousands of dollars. As it requires one pound of well washed wool—that is, washed upon the sheep's back—to make one yard of fulled cloth, three-fourths of a yard wide, and as the cost of manufacturing a yard is equivalent to the cost of the raw material, and the worth, with a fair profit for the manufacturer would be $1 25, the result is, a product of over nineteen millions of dollars. Add to this from three hundred to five hundred thousand sheep which are annually sold for slaughtering in our principal markets in this state, and what a mighty interest has the growing of sheep become! Want of space will compel me here to suspend.

L. A. M.

Lansing, Tompkins co., N. Y.

THE HOOF-AIL.

Mr. Tucker—Having had some experience in treating the disease in cattle commonly called the hoof-ail, I have concluded to suggest to my brother farmers a few thoughts on the subject. And first, it is generally believed that the disease is caused by taking into the system, the ergot that grows on the June grass, which no doubt is true; but some do not believe this, and for this class of persons I have been persuaded to make the following remarks:—It is said by them that the disease has appeared among cattle that have been fed with nothing but straw, roots and provender, having been fed with no hay through the winter. In answer to this, I would say, our wheat fields have yielded a bountiful crop of this worthless grass, for two years past, and it has been most bountifully loaded with ergot, and though when threshed it is all separated from the stalk, yet it remains either in the chaff or in the headings or screenings; the screenings are usually ground with coarse grain and fed as provender: the chaff is commonly thrown into the stack with the straw, or into a pen to be fed out as occasion requires, and not unfrequently used instead of cut straw, and thus the most effectual method is taken, to compel our stock to eat that which is most offensive to them, as well as destructive. I would warn every farmer against feeding either the chaff or the screenings, though the straw may be safely fed, if it has been threshed with a machine.

I will here add a few remarks on the symptoms and its remedy. If the ergot is in the hay, your stock will be very wasteful; if milch cows, they will soon shrink in their milk; the next is immoderate thirst, which is evidence of a high fever. (I owned a pair of oxen last spring, that would drink 24 pails of water in one day.) Soon after these symptoms, they will begin to shake their hind feet, lying down and getting up frequently, showing evident signs of pain; in three or four days after these symptoms, their ancles will begin to swell; in the course of three weeks, if the weather has been very cold, their hinder feet will have become cracked entirely round and will come off: (the poor creature will keep a good appetite the whole time;) but if the weather is warm, suppuration will take place within the hoof, and in the course of five or six weeks the hoof only will come off, and will be replaced by a new one when grown out. The only cause of difference is that in the first case, the feet have been frozen, which takes place much more easily than when in health.

REMEDY.

The farmer should be very watchful to discover the first symptoms. As soon as he makes the discovery, he should take for an ox, two ounces of salt petre dissolved in a pail of water, and let him drink it; for a cow two-thirds as much, and for young stock in proportion and repeat half the dose every day, until the fever abates. If the feet have swollen, bleeding is necessary, which is done as follows: Take a rope five feet long, with a button at one end and loop at the other; such as are used by some to fasten their cattle in the stable; pass it round the fore and hind foot twisting or rolling it together in the middle between the feet; then place the head under the belly of the animal, press hard against it, lifting at the same time hard upon the rope, and in an instant the animal is on his side; fasten his feet, apply a sharp knife between the claws of the foot, cut at least an inch deep through the heel nearly up to the dew claws; take a pint of blood from each foot, but if he should not succeed in obtaining so much blood, saw off the point of the toe transversely on the inside, as it will not injure or disfigure the hoof as much as to cut it square off, besides the pith lies much nearer the inside than the point.

When all this is accomplished, take an ointment, which however should have been prepared before hand, composed of six pounds of lard, three of verdigris, and a pint of tar; the verdigris must be rolled in six or eight thicknesses of wet paper and baked in a stove or under the ashes, about twenty-five minutes, or until it is soft; then pulverize it, put it into the melted tar and lard, stir it till cold; apply this ointment to the wound, bind it up with strong bandages and keep it dry and clean; and to conclude, if his object is to save his stock, he should feed nothing more that contains the ergot.

Jacob Sutphin.

Sweden, Monroe co., Dec. 28, 1838.

BEES.

Mr. Tucker—I have noticed that the management of bees is a subject which has often called forth remarks from subscribers to your truly valuable paper, the Genesee Farmer. It is a very interesting subject to very many readers, if not to all. Great improvements in the management of the honey bee have been made within a few years past, which have benefitted both "tenants and landlords"—and probably, still greater may yet be made by apiarian philosophers.—But I have no claim to be ranked among these. My object now is simply to state a method which a friend of mine pursues to obtain, with the greatest possible ease and convenience, the choicest and most delicious honey in great abundance. Upon this friend I lately called and partook bountifully of his "milk and his honey"—of the honey first, however, and then of the milk. This rich treat I enjoyed at the house of Mr. Nathan Bancroft, about a mile from our village. Mr. Bancroft's method may not be new to all, yet it may be to some of your readers. After spending the greatest part of the evening before a cheerful fire in the midst of a social and agreeable family,—"Come," said Mr. B., "let us walk up into my garret"—and with knife and plate in one hand and candle in the other, he led the way and we followed on until we came to the room from which was brought forth "sweetness." This is a tight plastered dark room, of the bigness of a common size bed room, in which were placed hives for the "busy bees"—being a safe and comfortable dwelling both for summer and winter for the most industrious and frugal creatures of any in the world. In this room, boards about two feet wide, and four feet long, are placed edgewise upon the floor, a little distance from the outer wall of the house, and upon these the hives are set; a board shelf is then placed between an aperture in the hive, near the centre of one side of it, to an aperture in the wall, over which the bees travel in coming in and passing out. Their house room is sufficiently ventilated, a hole being made also at the top and at the bottom of the hive. Thus, having free ingress and egress to and from their dwelling in all necessary ways, they need not be disturbed or injured by man, nor by animal of any kind. When the cold season comes on, they retire to their inner room (the middle of the hive,) where they have in store a plenty of food for themseves—having left under the shelf and attached to the under part and sides of the hives, as well as at the top of the hives, enough of most beautiful white comb, filled with the purest honey, without bee or spot, to satisfy any reasonable creature. Thirty pounds might have been taken from the hive we saw, without disturbing the bees in the least. With one slice from the inside of the hive, we loaded our plate with the finest of honey in comb, and returned to enjoy the treat.

Yours, &c. J. D.

Medina, January, 1839.

Thorn Fences—Inquiry.

Mr. Tucker—I wish some of your correspondents, who have a practical knowledge of growing thorn hedges, would give through your valuable paper, the best method of rearing them for live fence. I have a quantity of native thorn seeds, from which I wish to make a fence, and having no practical experience on the subject, do therefore wish to obtain a knowledge sufficient to start right. Whoever has had a successful experience on this subject, will confer a favor ou one of the readers of the Monthly Farmer. I am anxious to obtain a clear view of the whole process, as it is a matter of consequence to me.

Jacob Sutphin.

Sweden, Monroe co., Dec. 28, 1838.

Sowing Grass Seeds.

It is a bad system to mix seeds of different plants before sowing them, in order to have fewer casts. It is better to sow each sort seperately, as the trouble of going several times over the ground is nothing compared to the benefit of having each sort equally distributed.

Grass seeds cannot well be sown too plentifully, and no economy less deserving the name can possibly exist, than the being sparing of grass seeds. The seeds of grain may easily be sown too thickly, but with respect to those of grass, it is scarcely capable of occurring. The smaller the stem, the more acceptable it is to cattle; and when the seeds of some grasses are thinly scattered their stems tend, as it is called, to wood, and the crop is liable to be infested with weeds. Some think that if ground is well manured, good grasses will come in themselves. Perhaps so; but how long will it be before that happens! Clean seed, and that which is known to be suitable to the soil, should always be sown. For though grasses will gradually come in, no great crop is to be expected the first year, unless it be a crop of rank and useless weeds. And he that misses the first year's crop, loses much, as the longer the land lies, the more compact or bound it will become, and produce the smaller crops.

Every farmer should carefully examine his fields that are coming into grass for next summer's mowing, and carefully note all the bald spots, where by the lodging of grain or from any other cause, the grass roots have either not taken or been destroyed. On all such spots grass seeds should be applied at as early a period in the spring as possible. Failures of this sort generally are found where the soil is strongest, and if grass seed is not resown, there will be an abundant supply of weeds to annoy the careless farmer.—*Farmer's Cabinet.*

From the Franklin Farmer.

Experiments of Gen. Jas. Garrard with various Grasses.

To the Editor of the Franklin Farmer:

Sir—Upon the subject of grass, I have found no such essay, or notes as you suggest, was left by my father; he may have left such essay or notes, and should I in future find any, you shall have the full benefit of the same. As to my being able to treat the subject with that justice which its importance demands, I feel myself quite incompetent to the task; and not knowing the manner or design of the committee, I am unable to communicate what little knowledge I have upon the subject, so as to be of much use to them. Some of my father's experiments with grass, were made before I was of an age to notice or feel any interest upon the subject. He tried several varieties of grasses, among which were timothy, blue grass, clover, (three varieties,) orchard grass, red-top, meadow-oat and rye-grass, the last of which grew only from spring until winter and was killed by the frost, from which I conclude it could be of but little use in this country, although held in high estimation among the farmers of England, from whom he procured the seed when on a visit there. Red-top is suited only to low, wet, marshy land, and having but a *small* portion of such on his farm, he made but a partial trial as to its *qualities*. It yields very abundantly and is a good hay when put upon land that suits its growth. Upon high lands it will not do so well as low, wet, marshy lands—this, I think, from the trials I have myself seen made in Kentucky and Ohio. Meadow-oat he tried and thought well of as a grass to make hay; the greatest objection was to the time when it needed cutting, which was when the corn crop needed undivided attention. It has the advantage of being cut the second time of good seasons, with a good yield, and answers very well to be mixed with red clover—both ripening at the same time, and being well saved, makes an excellent food for cattle and horses. Red clover he tried as a hay grass; he admired the hay, but owing to the difficulty of saving, together with the disadvantageous time of saving, he abandoned the use of it for that purpose. The white clover is well known, and is inferior to the red, for the various uses of that grass. The scarlet was a variety which he procured in France, while on a visit to that country; it was the prettiest grass I ever saw, but the winter killed it as it did the rye-grass. Orchard grass he did not like for a meadow-grass for several reasons; it was equally objectionable with the meadow-oat and clover, as to the time of cutting—it grows too much in detached sods and does not sod comple ely the ground—the hay is too coarse and rough—cattle and horses are not as fond of it as clover or timothy; but for a pasture grass he admired it particularly when sown with other grass. It is much earlier than blue grass, timothy or clover, and affords grazing at a season when it is most needed, and upon the whole he thought it a valuable grass. Timothy he preferred as a meadow-grass to either of the others which he tried. He tried sowing at two different seasons, and on different kinds of land. He objected to spring sowing on two accounts; one was the difficulty of getting the ground in a suitable order to receive the seed; and another was, if any weeds were in the ground, they grew up faster than the grass and injured the meadow. He preferred old land for meadow, it being less liable to have weeds, and the grass not so liable to fall; and from the different trials he made, was of the opinion that one season with another yielded a better crop, and furthermore you were improving land that most needed it. He also tried fall sowing in different ways, with and without grain; with grain, (usually wheat,) he first prepared the ground very nicely by ploughing and harrowing, and, sowing the grain and leaving the ground as level as possible, sowed the timothy seed and did nothing more. The objections to this mode of making meadows are two-fold—1st, It is one season before you get any benefit of the grass, and another is, the timothy goes to seed before the wheat is cut and the heads of the grass are cut off in cutting the wheat, which usually causes your grass to be too thin; likewise the stubble is very much in the way in mowing the next year. He preferred preparing the ground well in the month of September and sowing the seed and then rolling the ground, which broke all the clods and levelled the ground, which is an advantage in mowing. He preferred sowing it much thicker than is common among farmers. A gallon to the acre is what is generally used; a peck is nearer what should be used. By sowing in the fall, and sowing thick, you at once sod your land, and are enabled to derive full benefit from it the next season, and in addition, it keeps the weeds from growing up in your meadow; whereas the usual idea is, sow thin and let your grass seed get ripe before cutting, in order to set your meadow more effectually; by so doing, all the vacant spots of ground most certainly grow up in weeds, thereby injuring your grass, and finally your meadow. The primary object of grass in this country is for grazing purposes; for this purpose we wish to put two kinds of land in grass—our new or woodland, and our old worn out lands. Our old lands we usually sowed in wheat or rye, and then in March, when the ground is thrown up by the frost, we sowed a mixture of timothy, blue grass and clover, and of late mixed some orchard grass, which is, I think, very advantageous. In this way the grain protects the grass from the heat of the sun, and by the time you wish to turn upon your stubble, you reap the benefit of the stubble, and at the same time knock the seed off your grass and more effectually set your ground. Some difficulty is experienced by Kentucky farmers in getting their woodlands set in grass, and it arises from two causes—the time of sowing, and the grass being pulled up by the roots by the stock in grazing. The last is the cause of the general failure in putting our hill lands in grass, as a remedy for which, I would suggest two means—1st, Sow your grass as soon as you save the seed, say in July or August; at that time the leaves of the former year are sufficiently rotted for the seed to germinate and grow; the trees likewise furnish shelter for the seed, and by fall, your grass has begun to take root, and then the falling of the leaves furnishes a protection to the young grass during the winter, and enables the grass to take root sufficient to keep the stock from pulling up the sods in grazing. All stock should be kept off until your grass seed is ripe, and then turn on as much as the grass will support for two or three weeks, which is as long as it should be grazed the first season, or at any rate until late in the fall. We generally sow some timothy and clover seed the spring following the sowing of the blue-grass, but I think the fall would be best for sowing the timothy, for the same reasons advanced in relation to the blue-grass.

Let those who doubt the philosophy of the above remarks relative to sowing grass, *try it for themselves*. Should you, or the committee, be able to glean any thing from the above remarks that they or you may think, could be of any benefit to the country, I shall feel myself amply paid for the little trouble it may have put me to, in the reflection that I have thus been instrumental in communicating such information.

I remain, your ob't. serv't.,

CHAS. T. GARRARD.

Bourbon County, Ky., Jan. 15, 1839.

Improvement in Seed.

Every intelligent agriculturist who gives the subject a thorough examination will find that farmers in general can make great improvements by procuring new and valuable varieties of seed. Every one should give strict attention to this business, and learn all new kinds that are brought before the public, and so far as they appear to be suited to his soil and climate, he should endeavor to obtain seed and make experiments. One farmer may have wet lands, and he may read of some grass or other vegetables well adapted to it another may hear of something well suited to his mellow light soil, and so on, almost every new or improved articles in terraculture, is well adapted to the situation of some farmers and will prove beneficial to them, and some are of general utility.

In most cases when new productions come before the public highly extolled, they have some claims to superiority, and are worthy of experiment, but in general, in such cases, when farmers do not possess superior opportunities for information, they would better be cautious and buy sparingly of new articles, and make experiments in a small way; for when experiments are made on a large scale, and prove to be unsuccessful, they are discouraging, and sometimes they are attended with losses, that lessens a farmer's means, as well as his disposition to make future trials.

Some farmers may try new kinds of seed, and for want of knowledge to enable them to manage properly, they may fail. In making experiments with productions, with which he is not acquainted, a farmer should first obtain the best possible information as to the mode of culture, and in case of a want of success in the first attempt, he should vary his management and persevere until a fair and thorough trial is made. Sometimes farmers may have their expectations raised so high with some new production, that has been *cracked up* too much by those benefited in a sale, that they have but a poor opinion of it, when they find their hopes are not realized, though the new article may be pretty good, and will prove to be a valuable acquisition.

It is ascertained that any valuable variety of fruit will degenerate after a long course of time, and that new ones must be originated by a cross fertilization with another variety. So it probably is with plants in general; they arrive to their highest state of improvement and will then degenerate in spite of all efforts to keep up their superiority. And when no care is taken to prevent a depreciation in plants, they may soon become poor and comparatively worthless. The best seed and the best plants should always be selected with a view of making improvement if possible, if not, for the purpose of preventing or retarding degeneracy.

When new articles are introduced to the notice of farmers and gardeners, they are usually dependant on those who have them for sale, for information as to their value, and the love of gain sometimes leads men to exaggerate, and in some cases men who stand high in society, who are well known and confided in, will, from their enthusiasm, when highly pleased with something new, extol it beyond due bounds, and thus become the innocent cause of deception.

But all the discouragements that offer themselves to the farmer in trying new things in his line, are very light, compared with the great advantage he obtains in case of a successful experiment. A man may obtain ten or twelve new varieties of seed, and pay 25 cents for each kind, and should all but one prove unprofitable, that may be of sufficient value to pay far more than the cost of seeds and expense of experiments. Besides the advantage of experiments in testing the nature of new articles, the farmer becomes more observant from every experiment he makes, which leads him on to further inquiries and improvements, and prepares his mind for the reception of knowledge from every available source.

As to the method of improving seeds, or producing new varieties of fruits and plants, we may say something in the proper season to attend to these things.—Now is the time for the cultivator to look around and see if he cannot obtain some other kinds of grain, grass, fruit, and other vegetable productions superior to those he now cultivates. This subject is of the highest importance, and should receive more attention, and it should be attended to early, that every thing may be ready for seed time. Many farmers think that they will make improvement in this way, but they neglect it till the time of sowing and planting, and then they have not an opportunity to attend to it, so they go on in what they do not consider the *good* old way.—*Yankee Farmer.*

Care of Horses.

There are a great many farmers who take but poor care of their horses in the winter season. In the short days they have water before dark, and then have to go without until nine or ten o'clock the next morning, or if they have water early in the morning, they will not usually drink, as their time of thirst is past. Horses seldom refuse water after they have eaten their evening meal, though if they do not have it then, they will usually drink but little the next morning until after eating. So if a horse will not drink early in the morning, it is no indication that he has not been thirsty the previous evening.

We have been particular in our observations on this point. We have turned a horse out to drink at nine or ten o'clock in the evening, and seldom knew him to fail of drinking heartily. Then for experiment we omitted to give him water in the evening, and attended to it in the morning before he was fed, and he would seldom drink. If it be best for animals to have free access to water at all times, as is generally allowed, then they ought surely to have a supply immediately after eating, when they are usually thirsty, though the superficial observer, who finds that they will not drink early in the morning may think that all has been well.

There is not a man probably, who has not at times been very much in want of drink, and yet, without being able to obtain it, his thirst has gradually abated. In this case the juices from other parts of the body are, in a measure, put in requisition to supply moisture when it is wanted, so by an equalness the thirst is abated or done away, but there is a deficiency of mosture in the system—a drouth less severe but more extensive, which if experieneed daily will prove unfavorable to health and strength; and in animals it will injure the growth of the young, and operate against the fine healthy condition of every creature. They must have water when they need it or they will not drink; like men, they do not eat and drink according to fashion and custom.

Some farmers will use their horses till they are warm and sweaty, and then put them up, perhaps in a cold barn, without covering them with any thing to keep them warm; this evil is often greatly increased by allowing the horses to drink freely of water, while warm, in order to save the trouble of watering them after they have stood till cool; a great many horses suffer in this way, and some are ruined. For a man or beast to be inactive and exposed to cold after exercise and perspiration, is very destructive of health, and will destroy the strongest constitutions. Every man knows the importance of guarding himself against exposure to cold after perspiration, and how a drink of cold water, in this state, will send a chill through his whole frame. Though a man is not like a horse, he resembles him in his ability to endure a great deal of labor with proper management, and in his liability to disease if his tender frame be not guarded with care.

It was observed in the Farmer, some months ago, that it was better for a horse to have a place in the winter where he could stand upon the manure, and walk round at ease, than be confined to a stall and stand on a hard floor. But in this case, as the horse will generally stand

in one place to eat, the manure will accumulate under his hind feet so that he will stand uneasy, unless it be leveled frequently, so that it will be as high or higher under his fore feet.

Currying horses is very much neglected by some farmers. This operation is very important, as it contributes both to the pleasure and health of the animal. In some cases this business is hardly attended to, being performed only a few times in the course of the winter.

Many a farmer's horse that is now stupid and lazy, and of a miserable appearance, would, under the care of a good hostler, without extra keeping, become so changed in his appearance and spirits in a few months, though performing the same amount of labor, that his owner would hardly know him.—*Yankee Farmer.*

The Short Horn Fever in Kentucky.

The Cultivator and Genesee Farmer were prophecying a short time ago, that the cattle fever in the West would soon reach a crisis. Those who are gifted with the spirit of prophecy never fail to find the facts which verify their predictions; and accordingly, the last number of the Cultivator, in noticing the price of a cow which was lately sold for $2000 in Kentucky, announces, that "this *is* the climax." The fever, having reached its crisis, according to the opinion of the Cultivator, we wonder that paper had not advised its readers whether the patient would die or get well. Judge Buel is unquestionably an excellent farmer and writer, but clearly he is *no doctor;* and if he were, he could not feel the pulse of a patient, at his distance, from Kentucky. But if our worthy cotemporary will honor our State by a visit, we promise to accompany him to the farm of every prominent breeder, and he will then be able to study and learn the true pathology of this disease, which, at a distance, appears so frightful. We will point him to the glorious blue-grass pastures, and the immense fields of "meal, meadow and manure," abounding in Kentucky; we will show him estimates of the exports of live stock from Kentucky to every quarter of the vast South; we will prove to him the great demand for improved animals of every description, not only existing in Kentucky, but the whole valley of the Mississippi, and which cannot be met; we will point him to the spirit which is exhibited here of substituting superior for inferior stock, and to the willingness of paying at present a comparatively high price in view of the vast advantage which must ultimately result from rearing good animals, instead of bad ones; and we think he will acknowledge that these are undoubtedly some of the predisposing causes of this great malady. Will you come, Judge?—we promise you shall graduate before you return to the North.

☞The "*climax*," however, we think, is not yet attained in Kentucky. The gentlemen who paid $2000 for a cow, have refused an advance on that price for her. One half of the $2000 cow and calf has been lately purchased by the owner of the other half, at an advance on cost. We do not pretend to say that higher prices than these will hereafter be given, for the animals to which we have alluded, are considered extra superior; but we are confident that the present current rates will be sustained for some time to come. There is not the least symptom of that *decline* which invariably follows a "*climax.*" In saying this, however, we do not wish to be understood as advocating the propriety of every farmer's giving these enormous prices. For the good of the breeding interest, and in view of the more rapid and general spread of the Durham cattle, we wish they could be sold at prices that would justify every farmer in substituting them for inferior breeds of the country. Purchasers can in general, buy Durham cattle in Kentucky as low, if not lower, than they can get animals of equal quality in England, and hence the present current rates will not probably decline very shortly. But we should rejoice to announce such a decline as would enable all to purchase; although we think those enterprising pioneers who have risked so much money in introducing them into the country, ought to be amply remunerated. We learn that several individuals and companies in Kentucky, having heavy capital, have gone or sent agents to England to purchase more improved stock of every description; and this at a time too, when, it is understood, the price of superior cattle has advanced fifty per cent in that country.—*Franklin Farmer.*

On the Disease of Domestic Animals.

Spavin. This is a disease of the horses' hock, and most generally causes lameness. It is of two kinds; viz: the bone, and the bog, or blood spavin. The former consists of a bony enlargement of the inner side of the hock joint, towards the lower part; the most effectual remedy for which is firing; and if it be done at an early stage of the disease, it will probably cure it. Another method of treating bone spavin, is to make an incision with a knife, or bore a hole in the bony swelling with a hot iron, and introduce into it a little sublimate of arsenic, which confine with a plaster. This generally occasions violent inflammation, and often excites systematic fever, endangering the horses' life—it, in some cases however, is beneficial, and the animal so far recovers as to be useful. It is, however, a remedy we should ourselves be loath to practice, considering the first named remedy by far the best if peforrmed at the proper time.

Blood spavin is a soft but elastic tumor on the hock, a little above where the bone spavin occurs, and more on the inside, or towards the bend of the joint. It does not often cause lameness, except when the horses' work is severe.

It is seldom removed; and although it may, when large, render the horse unfit for severe exertion, it is rarely an impediment to moderate labor. If any thing be done, continual blistering will be most like to prove beneficial. Horses most disposed to these diseases, are such as are cat-hammed, or have their hocks inclining inward, which tendency is increased by making the outside of the shoe higher than the inner. Working the horse at too early an age, is another cause of spavin, and should not be practiced.

Roaring. Which takes its name from the wheezing noise the horse makes in breathing, when put into quick motion. It is supposed, by some writers, to be caused by an effusion of coagulate nymph in the windpipe, and is considered incurable. When it becomes very violent, you may consider your animal useless, as it will render him unfit for any kind of work.—*Michigan Agriculturist.*

Produce of Three Acres of Land.

We have been politely favored by Mr. Dudley of Lyman, county of York, with the following statement of a crop which he took from three acres of land last fall.

It proves that old York County is not so far behind the spirit and improvements of the day, as some other parts of the State which we could name. This land is a sandy loam, and had been mowed for five successive years. After taking the hay from it in the summer of 1837, he ploughed it. In the spring of 1838, he put upon it seventy loads of good compost manure, and planted it with corn, beans, potatoes, ruta baga and pumpkins.

In the fall, he gathered 150 bushels of good sound ears of Indian corn, which would make 75 bushels of shelled corn; 7 bushels of beans; 135 bushels of potatoes; 305 bushels of ruta baga; 2 cords of pumpkins, and fodder from corn and ruta baga tops, equal to one ton of hay. The worth of this crop may be fairly estimated as follows.

Cr. By 150 bu. of ears corn,	$75,00
7 bu. of beans,	10,50
135 bu. potatoes,	40,00
305 bu. ruta baga,	91,50
2 cords pumpkins,	6,00
1 ton fodder,	10,00
	$233,00

Cost of production as follows:

Dr. To labor, including ploughing and harvesting,	$40,00
70 loads compost manure,	70,00
Seed,	4,00
	$114,00
Balance,	$119,00

Leaving a net profit of One hundred and nineteen dollars.

We have not reckoned in the taxes, nor the interest of the money on cost of the land and expenditures, but then on the other hand, it will be perceived that we have not said any thing of the balance of the manure still in the soil, and ready to push forward another crop. We have no doubt, although we do not know how relentive the soil may be of manure, or how easily it may part with it, there being much difference in soils in this respect, but we have no doubt that the manure put on will be felt through six successive crops. But suppose we put the taxes, and interest, and benefit to the present crop, against one half of the manure. We have then one half of it yet on hand, which is $35,00; deduct this from 114 dollars, the cost, reduces it to 79 dollars, and raises the net profits thirty-five dollars more, or 154 dollars net profit from three acres of land! What better investment does a man want than this?

Would it be an unfair mode of reckoning the value of this land by the amount of interest which it pays at 6 per cent? One hundred and fifty-four dollars, if we mistake not, is the interest of $2566,66, or $855,52 cents per acre. How many acres there are in the State of Maine which may very easily be made to afford the interest of this sum, in the shape of net profits; and what a vast change it would make in the appearance and prospects of our State, and the welfare of the people, if every farmer would put only *three* acres of his farm in a proper condition to do as well.—*Me. Far.*

Don't forget to Lime.

A short time since a farmer was inquired of, why he did'nt use lime as a manure? His reply was, "I can't afford it."

What, can't afford to make your fields produce twice as much grain and grass as they have heretofore furnished? I don't understand that kind of logic.

Well, I don't see how I could well afford to buy lime; it costs money, you know.

Yes, it costs money, that is true; and what is the use of money but to lay it out in such way as to make it produce more, in the same way that we sow wheat and plant corn, in order that we may get more wheat and corn in return.

The true plan of using money is to vest it so as to make it as productive as possible; and there is no way that I know of, by which a farmer can make his funds increase faster, than by so applying them as to increase the fertility of his farm.

That wise old farmer, William West, admonished his friends and neighbors "to be kind to the soil;" well knowing from his own experience that the result would be prosperity; but those who go on skinning and impoverishing it, are acting the part of the old woman who killed the goose that laid the golden egg; they soon arrive at that state when they think—

"They can't afford to lime."

There is a class of people in the world, and some of them are called farmers, who despise small things, and therefore they can never achieve great ones; they are too proud to thrive, and too lazy to grow rich; and because they can't do things on a large scale, omit to do them altogether, and these are the people—

Who can't afford to lime.

George Esher, the worthy and successful farmer and horticulturist, who is referred to under the heading of "More fruits of industry and intelligence," in vol. ii. p. 306 of the Cabinet; humble as was the commencement of his career in life, could always afford to buy manure, because he knew that if he enriched his soil, *it* would in turn enrich him, and in this way they have been going on for half a century, conferring reciprocal benefits on each other, and it is now a question not easy to determine which is the richer, George, or his farm, for—

He never said he could'nt afford to lime.

Those who think they can't afford to lime much, should lime a little; make a beginning, for there is nothing like commencing to do right. A farmer some years since was prevailed upon to buy lime enough to dress about ten acres of his ground; this gave him a start, and the increased produce gained by this trial, has induced him to continue it since, and from that time he began to thrive, and now he thinks—

—[*Farmers' Cabinet.* He can afford to lime.

Some of our friends of the silk culture are alarmed, lest the speculation in the Morus Multicaulis which now prevails in our country, should ultimately prove detrimental to the silk business, and perhaps prevent its permanent establishment among us. We would not encourage this or any other speculation; yet do not think it will result injuriously, but beneficially to the silk culture. It will certainly be the means of spreading the tree far and wide, and of propagating it to the utmost extent; and all the plants will ultimately be applied to the production of silk. Few persons are aware of the great number of trees which would be wanted to supply as much silk as we consume; and if all the Morus Multicaulis which are now in the United States should be planted next spring, and yield a reasonable increase, there will not be a Multicaulis tree for each of the inhabitants of this nation. The cultivators of the mulberry will therefore do a profitable business for years to come, and at last, it is believed, that the price of the tree will decline gradually, until the country is fully supplied. The most we have to fear is, that many persons without experience or preparation, will attempt to feed a large number of worms another season; and will not succeed, and this will prevent others from embarking in the business. We dwelt upon this subject in our November number, and it is so important, that we here again repeat the admonition there given, "Feed not over 5000 worms the first year, but be sure and feed some, and thus prepare yourself for more extensive operations." Inquiries are frequently made of us, why we do not say more about the process of dyeing and manufacturing silk, &c. It is because we deem such discussions premature and unprofitable at present. We do not think they would be read with interest by a majority of our readers; nor aid the good cause. What we have now to look at is, the best mode of cultivating the mulberry and the feeding of the worm; the production of raw silk: and when this object is accomplished, it will be early enough to discourse concerning the manufacture of silk goods.—That we can fashion raw silk into the most complete and

finished articles of ornament and apparel, we deem as certain as it is that Fulton and Whitney were Americans. But at present we must attend to the means of supplying the raw material, and to this purpose apply our discussions and labors.—*American Silk Grower.*

In a previous number of this work, we have urged the necessity and importance of strict attention to the quality and preservation of the eggs of the silk worm. This branch of the business is of so much consequence to the silk grower, that we again invite attention to it. The silk worm, like all the rest of the animal creation, transmits its constitutional peculiarities to its offspring.—Hence the propriety of selecting the fairest and largest cocoons for seed, and of saving the eggs of millers only for use; and an opposite course will certainly end in disappointment, though every other caution be attended to. And we incline to the belief, that at least one half the failures in the rearing of the worm in this country, that have occurred, were in consequence of appropriating the eggs of diseased millers, or of injury done to the eggs by an improper mode of keeping them. It appears to be well established, that the eggs should not be kept entirely excluded from air. During the last winter, a friend of ours imported a quantity of eggs in glass jars. One of the jars were sealed so close that its contents were wholly excluded from the outer air. The lid of the other jar was left off, and in its place a thin rag was put, and fastened with a string. The eggs in this jar hatched extremely well, and the worms which came from them prospered: but not one egg from the sealed jar ever hatched. Other circumstances likewise, that have fallen under our observation, strengthen the opinion, that total exclusion of air from the eggs will not do. Retarding the hatching of the eggs, by means of an ice house, two months beyond the usual season, at first view appears so much at variance with nature, that the egg must be injured by it; but it does not suffer, except where certain precautions are omitted. If in the spring the eggs are kept for a time in a cellar, or elsewhere, in a temperature so high that the incipient stages of life, or of hatching have begun in the eggs, and they are afterwards put in an ice house, and the hatching process suddenly arrested, it will spoil them. The eggs should be kept from the commencement of winter in a temperature of between 40 and 50 degrees, until taken out to be hatched; and they should not be taken out of the ice house and placed in the room when they are to be hatched, suddenly. The change of temperature will be so great that ill consequences will ensue, unless some precautionary measures shall be adopted.—After taking them out of the ice house, they should be put in a cellar, and there be kept five or six days before being placed in the room where the worms are to come out. This will ameliorate the bad effect of an instantaneous removal of the eggs, from a temperature of 40 degrees, to a temperature of 70 or 75 degrees.—*American Silk Grower.*

Improvement in Fence.

Mr. Dudley has also adopted some improvements in making fence, which ought to be more generally known, and when known, we doubt not, will be generally practiced, wherever the kind of material which he uses can be obtained.

He first threw up a ridge, or embankment by digging on each side of the line of the fence, and throwing the earth together between the ditches from which it was taken. This he raised two feet high and turfed it over. He then obtained stone posts four feet long. Any stone that will split, and afford a piece of this length, will answer the purpose. These he set into the embankment two feet deep, and ten or twelve feet apart. He then took two boards of the proper length to reach from post to post, and eight inches wide; also a strip of board four or five inches wide, and two feet long for a cleat to go up and down the post, and cover the ends of the boards. He then nailed the bottom board to this cleat, and placed them against the post. Then put the top board in its place, between the cleat and the post, but did not nail it. To keep them in its place, he then took a common nail rod, placed it around the post and cleat, between the two boards, and bending it tightly around the post, and hooked its ends strongly together by the hammer, or a pair of strong nippers. If pieces of the stone be struck off by the hammer at the corners where the iron rod goes round it, the rod will settle into the notches thus made, and gripe so firmly that the upper boards will remain in their places, without being nailed at all. The land being a sandy loam, does not heave by the frost, and he thus has a durable, neat, and economical fence. There are many places where stone posts can be obtained at a fair price, and in such places this kind of fence cannot fail to come into general use.—*Me. Far.*

Swellings.

To scatter swellings on horses, or other cattle, take two quarts of proof whiskey, or other proof spirits, warm it over coals, but not to blaze—dissolve it in a pint of soft soap—when cool, put it in a bottle, and add one ounce of camphor. When dissolved, it will form the liquid Opodeldoc, and is then ready for application, forming a cheap and useful remedy. When the swelling is on the leg, or any part that will receive a bandage, such bandage should be applied, and wet with Opodeldoc.

Bloody Murrain.

Many cattle in this state, Ohio, and the Western states generally, die of a disorder called Bloody Murrain. Some years since, I lost a fine ox by this disease. As far as I know it has baffled all attempts that have been made heretofore to effect a cure and has been considered fatal.

Last week, one of my oxen was attacked violently with this disorder. I supposed he would die as a matter of course, but unwilling to lose such an excellent animal without doing any thing to save his life, and being advised to try copperas, I went to look for some, and happening to observe a paper of alum, the thought struck me of mixing the two together, and make an experiment with them. I mixed about half an ounce of each, [copperas and alum] in about a quart of hot water, which was put in a bottle and given to the ox. In about 12 hours, finding it had helped him, I repeated the dose, with the most happy effect, as in a few hours afterwards he ate some bran that was offered him. He is now quite well, although very weak from the discharge of blood which attends the disease.

The publication of the above may benefit my brother farmers, and I would therefore request you to insert it in the Courier. Yours, &c., ELISHA SHELDEN.

Waterford, Jan. 22, 1839. [*Pontiac Cour.*

SCALDS AND BURNS.

A Philadelphia physician, from fourteen years' experience, recommends, in the U. S. Gazette, a simple and efficacious remedy for the most distressing of all injuries, scalds and burns. It is as follows:—"Take soot from a chimney where wood is burned, rub it fine, and mix one part soot to three parts or nearly so of hog's lard, fresh butter, or any kind of fresh grease, that is not salted; spread this on linen or muslin, or any cotton cloth for easier and more perfect adaptation. If in very extensive scalds or burns, the cloth should be torn into strips, before putting over the scald. Let the remedy be freely and fully applied, so as to perfectly cover all the burned parts. No other application is required until the patient is well, except to apply fresh applications of the soot and lard, &c."

The physician says the relief is almost instantaneous: from a minute or two to half an hour, will free the injured from pain, no matter what the extent of the burn may be, even if all the skin is removed from the body.—Try it.—*Cleveland Herald.*

Chilblains.

Many people are troubled during the cold weather, with a kind of inflammation of the feet, called chilblains.

They are caused by getting the feet or certain parts of them chilled by cold or wet, which deranges the action of the small capillary vessels, and brings on a passive inflammation, as it is called, accompanied with a slight swelling, and severe burning and itching. In order to remedy the trouble, some application should be made that will stimulate the vessels and rouse them up to healthy action.

Tincture of Iodine has been used,—very weak aquafortis or oil of vitriol,—weak spirits of ammonia—tincture of cantharides in liquid opodeldoc—and such like stimulating washes will be found useful, and relieve this uncomfortable complaint.

Maxims.

1. He is a thriftless farmer who buys any thing which his farm can produce.

2. He is no husbandman who does any work in the day time that can be done in the night, except in stormy weather.

3. He is worse who does on work days what he might do on holidays: and

4. He is worst of all who, in a clear sky, works within doors, rather than in the field.

Books for Farmers.

CHAPTAL'S Agricultural Chemistry, price $1 25.
A Treatise on Cattle, their breeds, management and diseases, price $2 50.
The First Volume of the Genesee Farmer, bound, price $1 50.
The Farmers' Own Book, price 50 cents.
The American Farriery, price 75 cents.
Feb. 2. D. HOYT.

Morus Multicaulis Cuttings.

THE subscriber can furnish 10,000 genuine Morus Multicauli Cuttings if applied to soon. E. H. MIX.
Avon, Livingston Co., N. Y. an26 3m

Water Lime Cement Aqueducts.

THESE Aqueducts, under the management of the subscribers, have now been in use for the last eight years, and have gained a decided advantage over any other aqueduct yet discovered for these reasons:—First. They are cheaper than any other. Secondly. They keep the water cooler and sweeter than any other. And thirdly. They are durable. An aqueduct formed of water lime cement sand, that will stand the desired pressure one month, why not one year? and if a year, why not an hundred? The first setting in of the weather is the trying time. If an aqueduct will stand the first pressure the trouble is over with; for the longer it is in use the stronger and harder it grows, becoming a complete stone in every sense of the word. We have taken great pains from year to year to examine work that were of our first putting down, and have found that every year adds to the firmness and hardness; the pipe in the sides were as clean and as smooth as the day that it was put down; having every appearance of a blue lime stone. There is no aqueduct that can equal this for conducting large quantities of water for villages, and the cheapness puts it in the power of all villagers to supply themselves with water from a distance. It is also the best aqueduct for the farmer, on account of its cheapness and very easy mode of laying. A farmer that has a spring rightly situated can himself after one half day's instruction from a competent operator, conduct water into any lot on his farm, and the actual cash he would have to pay out over and above his labor would not exceed twenty-five cents per rod.

Our price for laying these aqueducts (say for one inch pipe) is from 8s to 12s. per rod, depending something in what part of the country the work is required, and what the advantages are for obtaining cement. This price covers all expense, the water put in running. Our large aqueducts cost more in proportion than the small; a caliber of two inches will cost from three to four dollars per rod—but two and three inch pipe is seldom used, unless it is for village purposes.

There is in use throughout the state many miles of this aqueduct of most all sizes, which works well, and of course a great share of it were of our first putting down, whilst it was in its infancy. We have for the last five years made such improvements on the manner of forming our cement and the mode of laying and hardening the pipe, that there is no need of any failure whatever, if the true course is adhered to. We could produce thousands of certificates if they were needed, but presume the public have frequently seen our large bills, which are half filled with certificates and recommendations—and more than that, many must see the usefulness of the operation of our aqueduct, which ought to satisfy every reflecting person, that they are as good as recommended. The cement can be obtained at almost every store house on our canals, rivers or lakes. It is manufactured at Jamesville, Fayetteville, and Manlius, Onondaga county, and at Chittenango, Madison county, at 9s. per barrel—one barrel will lay from eight to ten rods of one inch pipe.

Letters patent from the United States were granted to John M. Benham of Bridgewater, Oneida county, New York, on the 27th of August, 1827, and a new patent obtained in October, 1830, and the said Benham did then appoint the subscribers his lawful agents to make, use and vend to others, to make, use and vend the above improvement; this is, therefore, to caution all persons from making, using or vending this improvement contrary to law. Every person that has any privilege to lay this aqueduct has a deed for the same in our name. All those having no such deed have no right for laying this pipe whatever. We will at all times be ready to attend to any call for work in any part of the country. We will also furnish those who may wish to take an interest in the above business, with a deed for any territory (not yet sold) they may wish, on such terms as connot help but suit, by addressing MYERS & MOON.
Bridgewater, Oneida co., N. Y., Jan. 25th, 1839.

Rochester Seed Store, 1839.

REYNOLDS & BATEHAM, the proprietors of this well known establishment, respectfully announce that they have again on hand a fine assortment of English and American SEEDS, of the latest growth, including all the most valuable and newly introduced articles of garden and field culture—Grain, Grass, Esculent Vegetable, Tree, Shrub, Herb and Flower Seeds. Also, a large collection of Garden Tools, Agricultural and Horticultural implements, Books, &c. and a splendid collection of Green House Plants.

The liberal and constantly increasing patronage which this establishment has received during the past four years, is a gratifying evidence that its usefulness is in a measure appreciated by an intelligent community, and that the efforts of the proprietors to give satisfaction have not been unsuccessful. Great pains are taken to have all articles sold at this establishment of the very best quality, and the proprietors hope, by unremitted exertion, together with their experience in the business, and facilities for growing and importing supplies, to merit the fullest confidence of the community, without which they do not ask or expect a continuation of its liberal patronage. Merchants and others supplied with superior Seeds either by weight at wholesale, or neatly put up in small papers for retailing at prices which will afford them a handsome profit. Small Assortments will not be furnished on commission, but an agency is, or will be established in each of the principal villages in Western New York, where a full assortment will be left for sale.

A Catalogue of 42 pages may be had on application.
REYNOLDS & BATEHAM,
No. 3 & 5 Arcade Hall, Rochester, N. Y., Jan. 1st, 1839.

"THE BOOK OF FRUITS," by Robert Manning, of Salem, Mass. Also—
"The American Flower Garden Companion," by Edward Sayers, Boston—price 75 cents each. For sale at the Rochester Seed Store.
Jan. 20th, 1839. REYNOLDS & BATEHAM.

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FOR SALE.—A few hundred very fine *genuine* Morus multicaulis Trees *not trimmed.*
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Flushing, near New York, Dec. 26, 1838. jan 5 8t

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Greece, October 27th, 1838.